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PATENT
ATTY. DOCKET NO. L-F/104H

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

**Ex parte Niehoff**

**Appeal No. _____**



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| Serial No.: | **09/307,633** |
| Filed: | **May 7, 1999** |
| Group Art Unit: | **3763** |
| Examiner: | **J. Maynard** |
| Applicant: | **Niehoff** |
| Title: | **SYRINGE WITH INDICIA FOR CONTROLLING PLUNGER DRIVE (AS AMENDED)** |

Cincinnati, Ohio 45202 May 30, 2001

**BRIEF ON APPEAL**

This brief is in furtherance of Applicant's Notice of Appeal filed November 30, 2000, appealing the decision of the Examiner dated August 30, 2000, finally rejecting

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, postage prepaid in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231 on: May 30, 2001

Laura G. Koehler

Laura G. Koehler

claims 22-31. A copy of the claims appears in the Appendix to this brief. This brief is transmitted in triplicate.

**Real Party In Interest**

The real party in interest in this appeal is Liebel-Flarsheim Company, a corporation of Ohio having a place of business at 2111 East Galbraith Road, Cincinnati, OH 45237.

**Related Appeals and Interferences**

There are no such appeals or interferences.

**Status of Claims**

Claims 22-31 are objected to under 35 U.S.C. 112(2) as unclear due to the use of the terminology "automatically detectable". If Applicant's amendment submitted herewith is entered, this language will be deleted and this objection will be moot.

Claims 22-25 stand rejected under 35 U.S.C. 102 as anticipated by Sahi et al., U.S. Patent 4,828,547.

Claims 22-31 further stand rejected under 35 U.S.C. 102 as anticipated by Reilly et al, U.S. Patent 5,383,858.

Claims 22-31 further stand rejected for double patenting with respect to other patents owned by Liebel Flarshiem Company. Applicant has offered to submit a Terminal Disclaimer upon determination of allowable subject matter, so it is believed that this ground of rejection needs no further discussion.

## Status of Amendments

An amendment for appeal is being submitted with this Brief. This amendment eliminates the objectionable "automatically detectable" language, returning the claims to their original form as filed with the application. Entry of this amendment is expected to simplify the issues for appeal.

## Summary of Invention

The present claims recite novel concepts relating to the control of a medical injector. Specifically, each claim recites a syringe that bears physical indicia that can be read by an injector to determine various specific parameters about the syringe. These parameters capacity of the syringe (claim 22), distance of a plunger from an end of the syringe when the syringe is installed on the injector (claim 24), an amount of fluid in a pre-filled syringe (claim 26), an end of travel position of a ram on an injector using the syringe (claim 28), and the range of travel of an injector ram on an injector using the syringe (claim 30). An injector able to read this information from a syringe is thereby capable of controlling an injection, in a manner appropriate to an installed syringe, with minimal manual manipulation by the technician responsible for the injector.

## Issues

Whether claims 22-25 are anticipated by Sahi et al. U.S. Patent 4,8282,547.

Whether claims 22-31 are anticipated by Reilly et al. U.S. Patent 5,383,858.

**Grouping of Claims**

The independent claims stand and fall separately, each from the others, for the reason that each independent claim recites a different aspect of information that is available from indicia on the syringe. Specifically, the aspects of information recited by the claims are: capacity of the syringe (claim 22), distance of a plunger from an end of the syringe when the syringe is installed on the injector (claim 24), an amount of fluid in a pre-filled syringe (claim 26), end of travel position of a ram on an injector using the syringe (claim 28), and range of travel of an injector ram on an injector using the syringe (claim 30). Each of these concepts is clearly distinct and the claims thus do not stand or fall together.

**Argument**

Initially, applicant notes substantial benefits in efficiency and reduction of error, are gained when a syringe with indicia is used. Specifically, the injector may use the indicia to automatically recognize the syringe type, thus avoiding the need for any reconfiguration. The information thus obtained can then be used in controlling the drive of a syringe plunger during an injection procedure. Syringes of differing capacities, different initial plunger positions or pre-filled volumes, or different ram travels, can be improved by including indicia on the syringe as recited in the claims and detailed in the application. These benefits establish nonobviousness of the claimed invention over the cited prior art.

The Examiner has relied upon the Sahi patent in rejecting the claims, apparently concluding (by virtue of an anticipation rejection) that Sahi shows "indicia" of the kind recited by the claims. It appears that the element the Examiner is relying upon is the

volume-indicating gradations shown on the Sahi syringe. However, Applicant notes that these gradations are not intended to be read automatically and, in any event, they are related to information other than what is recited in the claims. The gradations merely indicate positions (and related filled volumes) of the plunger within the syringe; they do not indicate the syringe's capacity, or the initial position of the plunger, or the pre-filled amount of fluid in a pre-filled syringe, or the end of travel or range of travel of a ram of an injector using the syringe. There is simply no disclosure to suggest any of these features. Applicant therefore traverses the Examiner's rejection based upon Sahi.

The Examiner has also relied upon the Reilly patent in making an anticipation rejection of the claims, again apparently concluding that Reilly shows "indicia". However, the element the Examiner is relying upon, is longitudinally spaced reinforcing ribs on the Reilly syringe. These ribs merely indicate a position on the syringe; they do not indicate its capacity, or the initial position of the plunger, or the pre-filled amount of fluid in the syringe, or the end of travel or range of travel of a ram of an injector using the syringe.

Reilly does describe (see, e.g., at col. 6 lines 31-65) prefilled syringes and syringes with various coded information. However, this description does not suggest indicia that indicate capacity, initial plunger position, prefilled quantity of fluid, end of travel or range of travel. A syringe having indicia reflecting this information is therefore patentable over the disclosure of Reilly. Applicant thus traverses the Examiner's rejection of the claims based upon Reilly.

In view of the foregoing, the Board is urged to reverse the Examiner's rejection.

Accordingly, Applicant submits that the Examiner's rejection is in error and a reversal of the rejection and allowance of the claims is therefore requested.

Respectfully submitted,
Wood, Herron & Evans, L.L.P.

By Thomas W. Humphrey
Thomas W. Humphrey
Reg. No. 34,353

2700 Carew Tower
441 Vine Street
Cincinnati, OH 45202-2917

Voice: (513) 241-2324
Facsimile: (513) 421-7269

## APPENDIX

22. (Twice amended) A syringe, comprising

a body having a closed forward end having a nozzle and an open rearward end,

a plunger located within said body, and

physical indicia on said syringe related to the capacity of said syringe.

23. The syringe of claim 22 wherein said physical indicia represents the length of an extender which is attached to said plunger within said syringe.

24. (Twice amended ) A syringe, comprising:

a body having a closed forward end having a nozzle and an open rearward end,

a plunger located within said body, and

physical indicia on said syringe related to the distance of the plunger from an end of said syringe when said syringe is initially installed on said injector.

25. The syringe of claim 24 wherein said physical indicia represents the length of an extender which is attached to said plunger within said syringe.

26. (Twice amended) A pre-filled syringe, comprising

a body having a closed forward end having a nozzle and an open rearward end,

a plunger located within said body, and

physical indicia on said syringe related to the amount of fluid in the pre-filled syringe.

27. The pre-filled syringe of claim 26 wherein said physical indicia represents the length of an extender which is attached to said plunger within said syringe.

28. (Twice amended) A syringe, comprising

a body having a closed forward end having a nozzle and an open rearward end,

a plunger located within said body, and

physical indicia on said syringe related to the end of travel position of an injector ram coupled to the plunger when the syringe is coupled to an injector.

29. The syringe of claim 28 wherein said physical indicia represents the length of an extender which is attached to said plunger within said syringe.

30. (Twice amended) A syringe, comprising

a body having a closed forward end having a nozzle and an open rearward end,

a plunger located within said body, and

physical indicia on said syringe related to the range of travel of an injector ram coupled to the plunger when the syringe is coupled to an injector.

31. The syringe of claim 42 wherein said physical indicia represents the length of an extender which is attached to said plunger within said syringe.